

COMPLETE LISTING OF ALL CLAIMS IN THE APPLICATION

Claims 1-35 (canceled).

36. (currently amended) A process for preparing a coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, which process consists essentially of
- (a) preparing an aqueous mixture containing said pesticidal agent, a pH-dependent polymer selected from the group consisting of ethyl acrylate/methacrylic acid copolymers, methyl methacrylate/methacrylic acid copolymers, methacrylic acid/methyl acrylate/methyl methacrylate copolymers and mixtures thereof, a base, optionally a plasticizer, optionally an ultraviolet protector, optionally an activity enhancer, optionally a glidant, and water; wherein the polymer
- (1) contains ester groups and free carboxylic acid groups,
- (2) is partially solubilized due to the action of the base, and
- (3) has solubilization pH greater than ~~about~~ pH 5.5;
- wherein the amount of base added is well below the amount required to fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts;
- wherein the mixture's pH is less than the polymer's solubilization pH; and

(b) drying the mixture to produce a coated pesticidal matrix.

37-38 (canceled).

39. (currently amended) A process as described in claim 36 wherein the polymer is soluble above ~~about~~ pH 7.

40. (canceled).

41. (previously presented) A process as described in claim 36, wherein the base is a hydroxide compound.

42. (currently amended) A process as described in claim 41, wherein the ~~compound~~ base is selected from the group consisting of ammonium hydroxide, an alkali metal hydroxide, an alkaline earth metal hydroxide, and mixtures thereof.

43. (currently amended) A process as described in claim 42, wherein the ~~compound~~ base is ammonium hydroxide.

44. (previously presented) A process as described in claim 36, wherein the mixture does not contain the plasticizer, the ultraviolet protector, the activity enhancer, and the glidant.

45. (previously presented) A process as described in claim 36, wherein the mixture contains the plasticizer.

46. (previously presented) A process as described in claim 36, wherein the mixture contains the ultraviolet protector.

47. (previously presented) A process as described in claim 36, wherein the mixture contains the activity enhancer.

48. (previously presented) A process as described in claim 36, wherein the mixture contains the glidant.
49. (previously presented) A process as described in claim 36, wherein the mixture contains the plasticizer and the ultraviolet protector.
50. (previously presented) A process as described in claim 36, wherein the mixture contains the plasticizer and the activity enhancer.
51. (previously presented) A process as described in claim 36, wherein the mixture contains the plasticizer and the glidant.
52. (previously presented) A process as described in claim 36, wherein the mixture contains the ultraviolet protector and the activity enhancer.
53. (previously presented) A process as described in claim 36, wherein the mixture contains the ultraviolet protector and the glidant.
54. (previously presented) A process as described in claim 36, wherein the mixture contains the activity enhancer and the glidant.
55. (previously presented) A process as described in claim 36, wherein the mixture contains the plasticizer, the ultraviolet protector, and the activity enhancer.
56. (previously presented) A process as described in claim 36, wherein the mixture contains the ultraviolet protector, the activity enhancer, and the glidant.
57. (previously presented) A process as described in claim 36, wherein the mixture contains the plasticizer, the activity enhancer, and the glidant.
58. (previously presented) A process as described in claim 36, wherein the mixture

contains the plasticizer, the ultraviolet protector, and the glidant.

59. (previously presented) A process as described in claim 36, wherein the mixture contains the plasticizer, the ultraviolet protector, the activity enhancer, and the glidant.
60. (previously presented) A process as described in claim 36, wherein the pesticidal agent is selected from the group consisting of an insecticide, an acaricide, a nematocide, a fungicide, a herbicide, and mixtures thereof.
61. (previously presented) A process as described in claim 60, wherein the pesticidal agent is an insecticide selected from the group consisting of a chemical insecticide, a biological insecticide, and mixtures thereof.
62. (canceled).
63. (currently presented) A process as described in claim 63 61, wherein the biological insecticide is a biological insecticide ~~naturally-occurring or a genetically-modified variety of an insect biological control agent~~.
64. (previously presented) A process as described in claim 63, wherein the biological insecticide is a naturally-occurring or a genetically-modified variety of an insect biological control agent.
65. (previously presented) A process as described in claim 64, wherein the insect biological control agent is selected from the group consisting of a viral pathogen, a bacterial pathogen, a fungal pathogen, and mixtures thereof.
66. (previously presented) A process as described in claim 65, wherein the insect

biological control agent is a viral pathogen selected from the group consisting of a DNA virus, a RNA virus, an unclassified insect virus, and mixtures thereof.

67. (previously presented) A process as described in claim 66, wherein the viral pathogen is a DNA virus selected from the group consisting of a double stranded enveloped DNA virus, a double stranded nonenveloped DNA virus, a single stranded DNA virus, and mixtures thereof.
68. (previously presented) A process as described in claim 67, wherein the DNA virus is a double stranded enveloped DNA virus selected from the group consisting of *Entomopoxvirinae* and *Eubaculovirinae*.
69. (original) A process as described in claim 68, wherein the double stranded enveloped DNA virus is *Entomopoxvirinae*.
70. (original) A process as described in claim 69, wherein the double stranded enveloped DNA virus *Entomopoxvirinae* is an entomopox virus (EPV) selected from the group consisting of *Melolontha melolontha* EPV, *Amsacta moorei* EPV, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus luridus* EPV, and mixtures thereof.
71. (previously presented) A process as described in claim 68, wherein the double stranded enveloped DNA virus is *Eubaculovirinae*.
72. (previously presented) A process as described in claim 71, wherein the double stranded enveloped DNA virus *Eubaculovirinae* is selected from the group consisting of

- (1) a nuclear polyhedrosis virus (NPV) of *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Helicoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa californica* NPV selected from the group consisting of V8v EGTDEL, V8vEGTDEL-AaIT, AcMNPV E2, AcMNPV L1, AcMNPV V8, AcMNPV Px1, and mixtures thereof; and
 - (2) a granulosis virus (GV) of *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof.
73. (original) A process as described in claim 67, wherein the DNA virus is a double stranded nonenveloped DNA virus.
 74. (currently amended) A process as described in claim 67, wherein the DNA virus is a single stranded nonenveloped DNA virus.
 75. (original) A process as described in claim 66, wherein the viral pathogen is a RNA virus selected from the group consisting of a double stranded enveloped RNA virus, a double stranded nonenveloped RNA virus, a single stranded RNA virus, and mixtures thereof.
 76. (original) A process as described in claim 75, wherein the RNA virus is a double stranded enveloped RNA virus selected from the group consisting of *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof.
 77. (original) A process as described in claim 75, wherein the RNA virus is a double

stranded nonenveloped RNA virus selected from the group consisting of *Reoviridae*, *Birnaviridae*, and mixtures thereof.

78. (original) A process as described in claim 75, wherein the RNA virus is a single stranded nonenveloped RNA virus selected from the group consisting of *Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof ,

79-80 (canceled).

81. (currently amended) A process as described in claim 36, wherein

(a) ~~the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer, a methyl methacrylate/methacrylic acid copolymer, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer, and mixtures thereof;~~

(b) (a) the plasticizer is selected from the group consisting of a poly(ethylene glycol), a poly(propylene glycol), a citric acid ester, diethyl phthalate, dibutyl phthalate, castor oil, triacetin, and mixtures thereof;

(c) (b) the ultraviolet protector is selected from the group consisting of carbon black, a benzophenone, a dye, titanium dioxide, and mixtures thereof;

(d) (c) the activity enhancer is a stilbene compound and;

(e) (d) the glidant is selected from the group consisting of talc, magnesium stearate, calcium stearate, calcium sulfate, and mixtures thereof.

82. (currently amended) A process as described in claim 36 81, wherein

(a) the polymer is selected from the group consisting of an ethyl

acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of about 1:1, a methyl methacrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof ;

- (b) The plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1,000 to 10,000; and
- (c) the stilbene compound is selected from the group consisting of Blancophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof.

- 83. (previously presented) A process as described in claim 36, wherein the polymer is a methyl methacrylate/methacrylic acid copolymer.
- 84. (previously presented) A process as described in claim 36, wherein the mixture is spray dried.
- 85. (previously presented) A process as described in claim 36, wherein the coated pesticidal matrix has a particle size of less than about 20 μm .
- 86. (previously presented) A process as described in claim 58, wherein the coated pesticidal matrix has a particle size of from about 2 μm to 10 μm .
- 87. (previously presented) A process as described in claim 36, wherein the coated

matrix comprises, on a percentage-weight-basis of the matrix, from about 1% to about 50% of the pesticidal agent, from about 5% to about 50% of the polymer, from about 0% to about 25% of the plasticizer, from about 0% to about 30% of the ultraviolet protector, from about 0% to about 75% of the activity enhancer, and from about 0% to about 15% of the glidant.

88. (currently amended) A ~~The~~ coated pesticidal matrix of claim 97 which includes a pesticidal agent which ~~itself is substantially inactivated by ultra-violet radiation,~~ but which when included in said coated matrix retains a significant amount of its original pesticidal activity, consisting essentially of on a percentage-weight-basis of the coated matrix, from about 1% to about 50% of said pesticidal agent, from about 5% to about 50% of a said pH-dependent polymer, from about 0% to about 25% of a plasticizer, from about 0% to about 30% of a an ultraviolet protector, from about 0% to about 75% of a an activity enhancer, and from about 0% to about 15% of a glidant; ~~wherein the polymer contains ester groups and free carboxylic acid groups, is partially solubilized due to the action of a base, wherein the amount of base added is well below the amount required to fully solubilize the copolymer, such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts, and wherein the polymer has a solubilization pH greater than about pH 5.5.~~
89. (previously presented) A coated pesticidal matrix as described in claim 88, wherein the coated matrix comprises, on a percentage -weight-basis of the

coated matrix, from about 5% to about 35% of the pesticidal agent, from about 10% to about 45% of the polymer, from about 0% to about 25% of the plasticizer, from about 0% to about 20% of the ultraviolet protector, from about 0% to about 45% of the activity enhancer, and from about 0% to about 10% of the glidant.

90. (currently amended) A coated pesticidal matrix as described in claim 88, wherein

(a) ~~the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer, a methyl methacrylate/methacrylic acid copolymer, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer, and mixtures thereof;~~

(b) ~~(a)~~ the plasticizer is selected from the group consisting of a poly(ethylene glycol), a poly(propylene glycol), a citric acid ester, diethyl phthalate, dibutyl phthalate, castor oil, triacetin, and mixtures thereof;

(c) ~~(b)~~ the ultraviolet protector is selected from the group consisting of carbon black, a benzophenone, a dye, titanium dioxide, and mixtures thereof;

(d) ~~(c)~~ the activity enhancer is a stilbene compound; and

(e) ~~(d)~~ the glidant is selected from the group consisting of talc, magnesium stearate, calcium stearate, calcium sulfate, and mixtures thereof.

91. (previously presented) A coated pesticidal matrix as described in claim 90, wherein

(a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups

and ester groups in a ratio of about 1:1, a methyl methacrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof;

- (b) the plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1,000 to 10,000; and
- (c) the stilbene compound is selected from the group consisting of Blacophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof.

- 92. (currently amended) A pesticidal matrix as described in claim 88, wherein the pesticidal agent is selected from the group consisting of an insecticide, an acaricide, a nematocide, a fungicide, a an herbicide, and mixtures thereof.
- 93. (previously presented) A pesticidal matrix as described in claim 92, wherein the pesticidal agent is an insecticide selected from the group consisting of a chemical insecticide, a biological insecticide, and mixtures thereof.
- 94. (canceled)
- 95. (previously presented) A coated pesticidal matrix as described in claim 93, wherein the insecticide is a biological insecticide selected from the group consisting of a viral pathogen, a bacterial pathogen, a fungal pathogen, and mixtures thereof.

96. (currently amended) A coated pesticidal matrix as described in claim 95, wherein

(a) the biological insecticide is selected from the group consisting of

- (1) *Melolontha melolontha* EPV, *Amsacata moorei* EPB, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus luridus* EPV, and mixtures thereof;
- (2) *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Heliocoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa californica* NPV selected from the group consisting of V8vEFTDEL, V8vEGTDEL-AaIT, AcMNPV E2, AcMNPV L1, AcMNPV V8 and AcMNPVPx1, and mixtures thereof;
- (3) *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof;
- (4) *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof;
- (5) *Reoviridae*, *Birnaviridae*, and mixtures thereof;
- (6) *Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof;
- (7) *Bacillus thuringiensis*, *Bacillus lentimorbus*, *Bacillus cereus*, *Bacillus popilliae*, *Photobacterium luminescens*, *Xenorhabdus nematophilus*, and mixtures thereof; and
- (8) *Beauveria bassiana*, *Entomophthora* spp., *Metarrhizium anisopliae*,

and mixtures thereof;

~~wherein the amount of base added is well below the amount required to fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts; and~~

~~wherein the mixture's pH is less than the polymer's solubilization; and~~

~~(b) drying the mixture to produce a coated pesticidal matrix.~~

97. (previously presented) A coated pesticidal matrix produced by a process as described in claim 36.
98. (previously presented) A process for improving the residual control of a pest comprising applying to the locus of the pest a pesticidally-effective amount of a coated pesticidal matrix as described in claim 97.
99. (currently amended) A process for preparing a coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, which process consists essentially of
- (a) preparing an aqueous mixture containing said pesticidal agent, a pH-dependent polymer, a base, optionally a plasticizer, optionally an ultraviolet protector, optionally an activity enhancer, optionally a glidant, and water;
- wherein
- (A) the said pH dependent polymer is selected from the group

consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof;

- (B) the plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1, 000 to 10,000;
- (C) the ~~stilbene compound~~ activity enhancer is selected from the group consisting of Blancophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof;
- (D) the pesticidal agent is a biological insecticide selected from the group consisting of
 - (1) *Melolontha melolontha* EPV, *Amsacta moorei* EPB, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus luridus* EPV, and mixtures thereof;
 - (2) *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Heliocoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa*

californica NPV selected from the group consisting of V8vEFTDEL, V8vEGTDEL-AaIT, AcMNPV E2, AcMNPV L1, AcMNPV V8 and AcMNPVPx1, and mixtures thereof;

- (3) *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof;
- (4) *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof;
- (5) *Reoviridae*, *Birnaviridae*, and mixtures thereof,
- (6) *Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof;
- (7) *Bacillus thuringiensis*, *Bacillus lentimorbus*, *Bacillus cereus*, *Bacillus popilliae*, *Photobacterium luminescens*, *Xenorhabdus nematophilus*, and mixtures thereof; and
- (8) *Beauveria bassiana*, *Entomophthora* spp., *Metarrhizium anisopliae*, and mixtures thereof;

wherein the amount of base added is well below the amount required to

fully solubilize the copolymer such that no more than 10% of the free

carboxylic acid groups of the copolymer are converted to salts; and

wherein the mixture's pH is less than the polymer's solubilization pH; and

- (b) drying the mixture to produce a coated pesticidal matrix.

100. (previously presented) A coated pesticidal matrix prepared according to the process of claim 99, comprising, on a percentage-by-weight basis of the coated pesticidal matrix, from about 1% to about 50% of a pesticidal agent, from about 5% to about 50% of a pH-dependent polymer, from about 0% to about 25% of a plasticizer, from about 0% to about 30% of a ultraviolet protector, from about 0% to about 75% of a activity enhancer, and from about 0% to about 15 % of a glidant.